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ABSTRACT

Two data waves from the Youth Cohort of the National Longitudinal Surveys of Labor Market Experience compared Black, Hispanic, and White servicemen with their civilian counterparts to determine what types of persons are more likely to enlist in the military. Comparisons of minority servicemen with their civilian peers who are employed full time showed that those who chose the service had better-educated parents, were better educated themselves, and had higher educational expectations and better scores on the Knowledge of the World of Work Test. The following characteristics tended to increase enlistment intentions among Whites: lower parental education, longer employment, residing in a state with high unemployment, the desire for occupational training, and approval of one's enlistment by a significant other person. Among Hispanics, the only correlation found to be statistically significant was that of approval by a significant other; among Blacks, having been in the labor force and having lived in a single-parent household by the age of 14 increased the likelihood of enlistment. Although males and females aged 17 to 21 in 1980 agreed that serving in the military was a good thing to do, only 22 percent of the males and 11 percent of the females said they would try to enlist. (MN)

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# DEFENSE

# MANPOWER DATA CENTER

## POLICY FINDINGS RELATED TO MILITARY SERVICE FROM THE YOUTH COHORT OF THE NATIONAL LONGITUDINAL SURVEYS OF LABOR MARKET EXPERIENCE

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# POLICY FINDINGS RELATED TO MILITARY SERVICE FROM THE YOUTH COHORT OF THE NATIONAL LONGITUDINAL SURVEYS OF LABOR MARKET EXPERIENCE

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April 1985

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## Preface

On October 21, 1982, Michael E. Borus and Choongsoo Kim, of the Ohio State University Center for Human Resource Research, delivered a briefing to the Manpower Research and Development Planning Committee of the Office of Naval Research (ONR).

The briefing was a concise survey of some of the more policy-relevant findings that have come out of the OSU/CHRR program of research on the NSL. This program is now in its seventh year, and the work covered in the briefing is contained in three reports.

- The All-Volunteer Force: An Analysis of Youth Participation, Attrition and Enlistment (May 1980)

- Youth and the Military Service: 1980 National Longitudinal Survey Studies of Enlistment, Intentions to Serve, Reenlistment and Labor Market Experience of Veterans and Attriters (May 1982)

- The All-Volunteer Force: 1979 NLS Studies of Enlistment, Intentions to Serve, and Intentions to Reenlist (July 1982)

(The Defense Manpower Data Center has published these reports for general distribution.)

The briefing concluded with some remarks by Kyle Johnson of DMDC. He described the characteristics of the NLS-Youth data, discussed their applicability to military manpower research, and surveyed several research

projects (other than those at Ohio State University) that have applied these data to manpower issues.

The DoD Advisory Group for the National Longitudinal Survey of Youth Labor Force Behavior, Military Component (NLS-MC) also attended the 1982 briefing. Since that time, copies of the two sections of this briefing note have been available and circulated within the Advisory Group; to introduce a wider audience to NLS Military-related research, they are being reissued in this form.

## SUMMARY

The Youth Cohort of the National Longitudinal Surveys of Labor Market Experience (NLS) was begun in 1979. Funding and guidance from the Department of Defense and the services made it possible to include a special group of service personnel in this cohort. The NLS conducted annual interviews beginning in 1979 which will continue at least through 1985. The survey offers a vast data source for answering many analytical questions of particular interest to the military.

Analyses of two data waves from the NLS show that minorities from better backgrounds and with better credentials are disproportionately attracted to the armed forces. Comparisons of minority servicemen with their civilian counterparts employed full-time showed that those who chose the service had better-educated parents, were better educated themselves, had higher educational expectations and better scores on a Knowledge of the World of Work Test. Among whites, servicemen and out-of-school civilians employed full time were similar on several measures. In the aggregate, these data show that the services recruit young men of high quality relative to the pool of out-of-school youth employed full-time.

Factors correlating with a positive intention to enlist varied among white, Hispanic, and black male high school seniors. Among whites, lower parental education, longer unemployment, residing in a state with high unemployment, the desire for occupational training, and approval of his enlistment by a significant other person tended to increase enlistment intentions. Among Hispanics, the only correlation statistically significant was with approval by a significant other; and among blacks, having been in the labor force and having lived in a single-parent household at age 14 increased enlistment likelihood.

Males and females age 17-21 in 1980 agreed that serving in the military was a good thing to do, but only 22 percent of the males and 11 percent of the females said they would try to enlist. Although an inverse relationship appeared between the quality of individuals and their positive enlistment intentions, the screening process seems to exclude the less educated and less able.

Differences in reenlistment intentions appeared between male and female and white minority first-term service personnel; females and minorities had higher reenlistment intentions, probably because their civilian job opportunities are not comparable to those of white males. Satisfaction with the military job was correlated with positive reenlistment intentions, suggesting that service is regarded widely as a career. Married men were more likely than others to enlist, but married women were less likely to. No significant relationship appeared between pay levels or military occupation and positive reenlistment intentions.

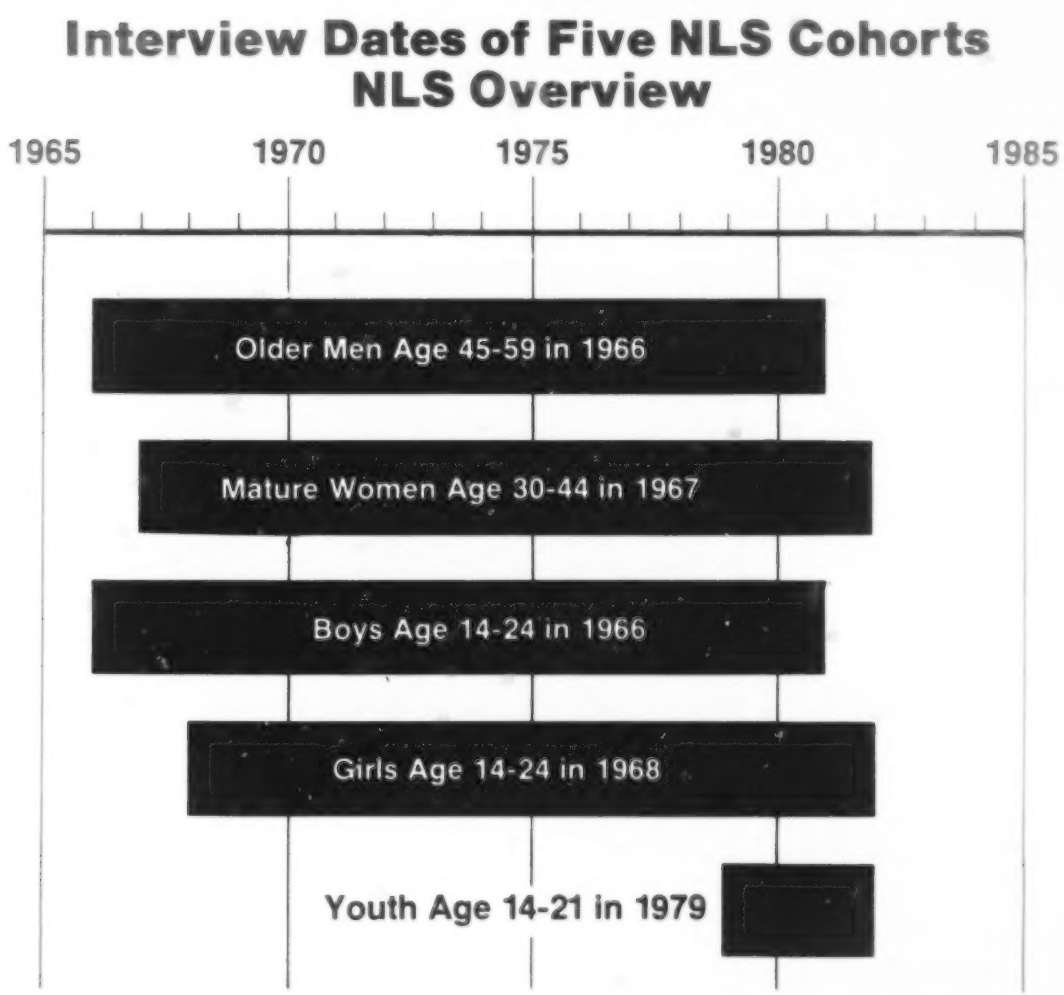
A comparison of the labor market experience of veterans, attriters (those who leave before completion of their first term), and those who never served showed that immediately after serving male veterans had lower hourly earnings than those who had never served, but by ten months after service this earnings gap disappeared. Among male attriters, a small earnings disadvantage remained over time. Female attriters enjoyed a brief period of wage advantage over veterans and those who never served, but this advantage disappeared over time and by 18 months following leaving the service they earned substantially less. Female veterans did not differ significantly in wage rates from those who never served.

Several findings with policy implications arise from these analyses. The All-Volunteer Force has been successful in attracting able young people, particularly from among minorities. The desire for occupational training is a major factor associated with enlistment among white men. Men in the service were more likely to be married; marriage seemed to increase reenlistment intentions among men and decrease them among women. Those young people with higher educational aspirations were more likely to enlist, implying that both in-service and post-service educational benefits may be an aid to recruitment.

## INTRODUCTION

The National Longitudinal Surveys of Labor Market Experience have been conducted since 1966 (Figure 1). Four cohorts of specific segments of the labor force (men 45-59, women 30-44, young men 14-24, and young women 14-24) were begun in 1966, 1967, and 1968, funded by the United States Department of Labor's Employment and Training Administration. Data have been collected on these cohorts for fifteen years. In 1977 the Office of Youth Programs in the Labor Department proposed a new cohort consisting of young men and women 14-21 years of age. The Youth Cohort Survey was begun in 1979.

FIGURE 1



Realizing that a major shortcoming of the earlier NLS cohorts was their lack of information on the military experience of the respondents, Zahava Doering, then of the Rand Corporation and now of the Defense Manpower Data Center, and David Grissmer of the Rand Corporation, initiated the idea of a military component for this new youth cohort. A funding consortium coordinated by Albert Martin, then Director of Accession and Retention in the Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics, and representatives of the Office of Naval Research, the Air Force Office of Scientific Research and the Army Research Institute was formed to add a supplementary sample of service men and women and to design a set of questions of particular interest for military planning. Support for the selection of the military sample and assistance in locating military personnel was provided by Kenneth Scheflen, Chief of the Defense Manpower Data Center (DMDC) and his staff. Funding for other segments of the Youth Cohort Survey also came from other organizations in the Departments of Education and Health and Human Services (Figure 2).

FIGURE 2

## Sources of Funding

### CIVILIAN COMPONENT

**U.S. Department of Labor**
- Employment and Training Administration

**U.S. Department of Health and Human Services**
- National Institute of Child Health and Human Development
- National Institute of Alcohol Abuse and Alcoholism

**U.S. Department of Education**
- National Institute of Education
- Office of Vocational and Adult Education

### MILITARY COMPONENT

**U.S. Department of Defense**
- Office of the Secretary of Defense
- Office of Naval Research
- Air Force Office of Scientific Research
- Army Research Institute

## THE YOUTH SAMPLE

The new Youth Cohort was selected to be representative of the national population of individuals who were age 14-21 as of December 31, 1978, i.e., persons born in the years 1957 to 1964, who were living within the 50 states or on active military duty outside the United States. Excluded were individuals living permanently in institutions. For the civilians, approximately 75,000 dwelling units were screened to find all eligible civilian youth. The sample was stratified in order to yield approximately equal numbers of men and women with oversamples of Hispanics, blacks, and non-Hispanic non-black poor youth. The military sample was selected to represent the persons age 17-21 in the services as of September 30, 1978. Separate samples were selected for males and females so that there would be an overrepresentation of female military personnel.

The first youth survey was conducted between January and mid-August of 1979. A total of 12,686 individuals were interviewed, and each was assigned a weight so that they represent the national population. There were 11,406 civilians and 1,280 military cases in 1979. All of these individuals are sought for reinterviewing in each successive interview wave. Succeeding interviews have shown that some of the original military personnel became civilians while some of the civilians have joined the military. Persons are interviewed according to the status that they have at each interview rather than whether they were originally civilian or military cases. The sample distributions for 1979 appear in Table 1.

TABLE 1

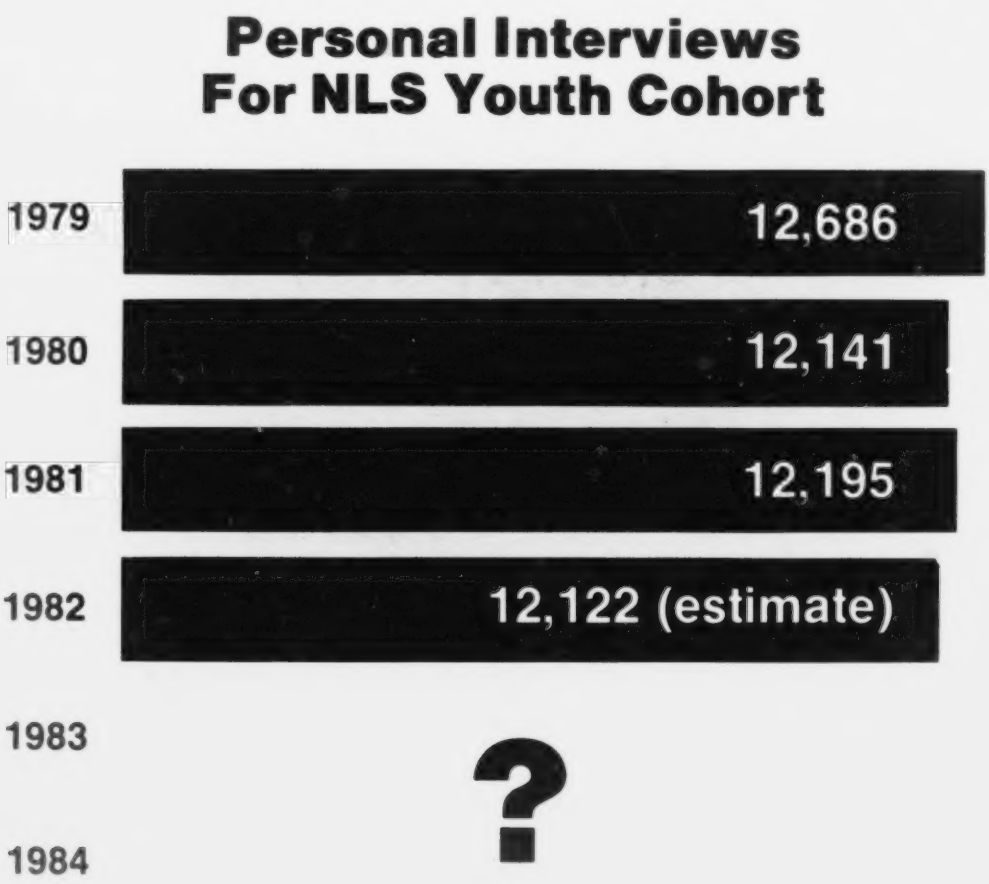
# Distribution of Completed Cases For NLS Youth Sample

| | Civilian | Military | TOTAL |
|---|---|---|---|
| **MALE** | | | |
| Black | 1444 | 162 | 1606 |
| Hispanic | 946 | 53 | 999 |
| White | 3185 | 608 | 3793 |
| **TOTAL** | 5575 | 823 | 6398 |
| **FEMALE** | | | |
| Black | 1479 | 89 | 1568 |
| Hispanic | 978 | 25 | 1003 |
| White | 3374 | 343 | 3717 |
| **TOTAL** | 5831 | 457 | 6288 |
| **GRAND TOTAL** | 11,406 | 1280 | 12,686 |

RESPONSE RATES

Interviews have been conducted from January through May annually since 1979. They are to continue at least through 1984. Attrition from the sample has been exceedingly small. More than 95 percent of the individuals interviewed in 1979 have been reinterviewed in each of the succeeding waves (Figure 3). This remarkable record has been achieved by the National Opinion Research Center at the University of Chicago, which is responsible for the sample selection and interviewing. Responsibility for the questionnaire construction, analysis of certain aspects of the data, and preparation and release of public use data tapes rests with the Center for Human Resource Research at The Ohio State University.

FIGURE 3



TOPICS COVERED AND AVAILABLE DATA

In constructing the annual surveys, information is sought which is of interest to the NLS sponsors (Figure 4). There is a heavy emphasis on labor market activities in each wave of the surveys because the Department of Labor (DOL) has provided the bulk of the funding each year. A complete history of work and participation in education and training programs since the prior interview, current employment status, information about the current job, and income information have been gathered for DOL. Fertility and childcare questions appear under sponsorship of the National Institute for Child Health and Human Development and a series of questions on alcohol use has been asked for the National Institute on Alcoholism and Alcohol Abuse. Background information including demographics, geographic mobility, living arrangements, psychological measures (such as the Rotter internality/externality scale and the Rosenberg self-esteem scale), and the Knowledge of the World of Work Test have been used to provide independent variables for all the analyses.

FIGURE 4

## Major Classes of Variables NLS Youth Cohort

**Labor Market Experience Variables**

**Early Formative Influences**

**Education and Training**

**Health and Physical Condition**

**Marital and Family Characteristics**

**Financial Characteristics**

**Psychological Variables**

**Delinquency and Drugs**

**Time Use**

**Environmental Variables**

**Military Service**

Additionally, special sets of questions on time use, delinquency, and pre-natal care have been introduced in individual surveys. Military service activities and attitudes leading toward enlistment have been secured using questions developed by DOD and the services (Figure 5).

In addition to the information gathered from the respondents' interviews, other data have been secured. The most prominent of these is the Profile of American Youth conducted in the summer of 1980 in which a version of the ASVAB was administered to the NLS youth cohort. The main objective of this test was to assess the vocational aptitudes of a nationally representative sample of youth and to develop current national norms. Data have also been gathered from the schools of the civilian segment of the sample. This information includes characteristics of the last high school attended and the high school transcripts of those who have graduated or dropped out of high school.

All the information collected for the individuals is made available on a public data tape in a file updated annually. The data collected in the spring of each year are released during the summer of the following year, after the data have been cleaned and the documentation constructed. Thus, the first three waves of interviews, 1979-1981, the scores of the Profiles of American Youth, and the school and transcript information have been available since October 1, 1982. The data set is probably the most extensive information presently available on American young people. The most recent data tape contained over 6,500 variables on the 12,686 youth participants.

FIGURE 5

## Military Service Variables

- **Branch of Armed Forces**
- **Months Spent in Armed Forces**
- **Military Occupation(s)**
- **ROTC or Officer Training**
- **Reserve or Guard Activities**
- **Pay Grade and Income**
- **Type and Amount of Military Training**
- **Formal Education Received While in Service**
- **Future Military Plans**
- **Why Entered Military**
- **Reason for Leaving Military**
- **Contact with Military Recruiters**
- **Type of Discharge**
- **Enlistment/Reenlistment Bonuses Received**
- **Civilian Job Offer at Time of Discharge?**
- **Return to Same Employer After Active Duty with Reserves or Guard?**

## FINDINGS

The findings related to military service which have been derived from the NLS Youth Cohort will be discussed here under four general headings: the quality of the all-volunteer force, the intentions of youth to serve in the military, the reenlistment intentions among service personnel in their first term of duty, and the post-service labor market experience of veterans and attriters compared to those who never served (Figure 6). Details of each of these analyses are contained in the three full reports cited in the Preface.

FIGURE 6

**FINDINGS**

- **The Quality of the All-Volunteer Force**
- **The Intentions of Young People to Serve in the Military**
- **Reenlistment Intentions Among Service Personnel in their First Term of Duty**
- **The Post-Service Labor Market Experience of Veterans and Attriters Compared to Those Who Never Served.**

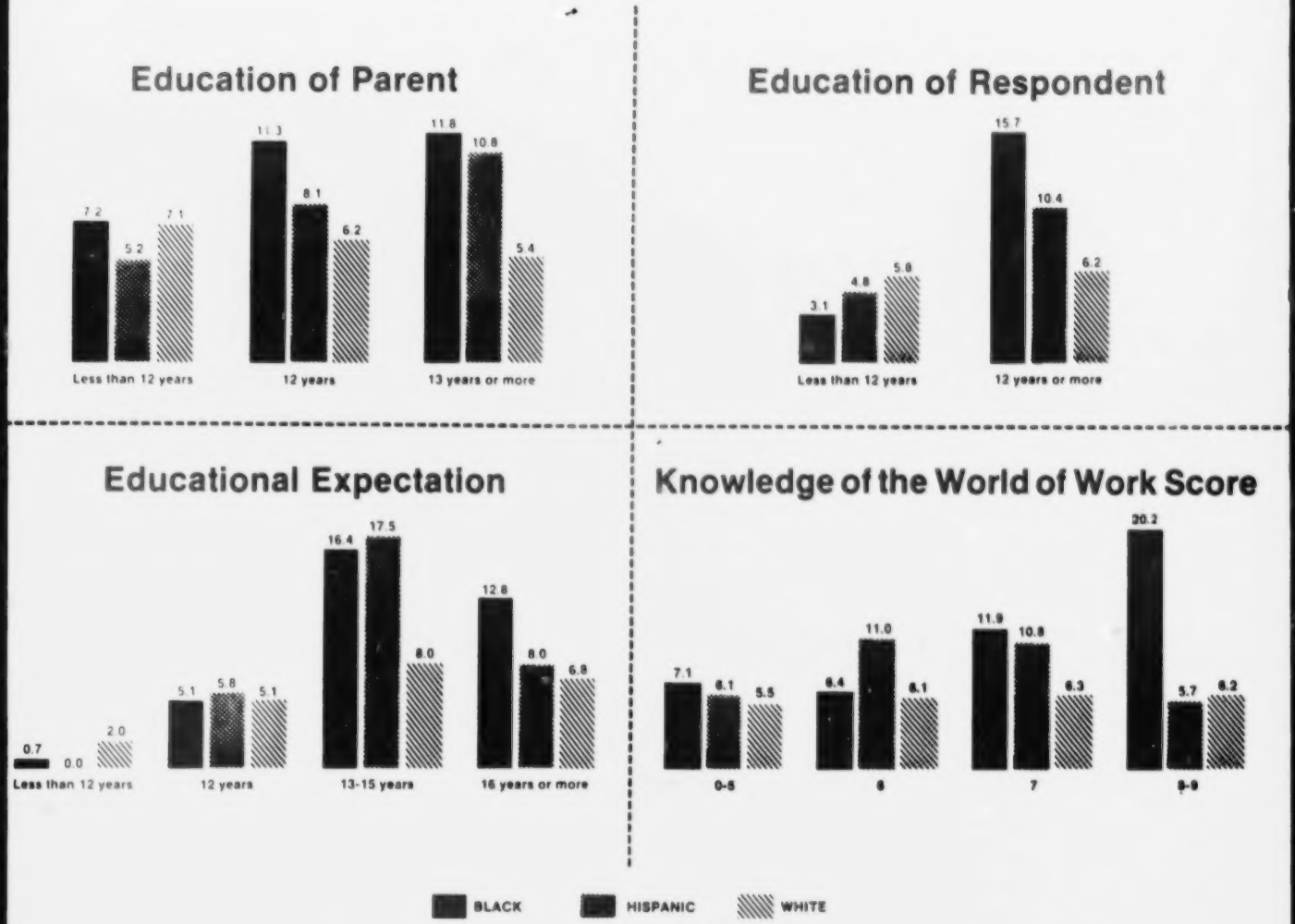
PARTICIPANTS IN THE ALL-VOLUNTEER FORCE AND THEIR QUALITY

Examining young men's military participation rates, we find that minorities (particularly blacks) from better backgrounds and with better credentials are disproportionately attracted to the armed forces (Figure 7). Among black and Hispanic young men, we find higher participation rates as parents' education increases. Among Hispanic youth, more than twice the percentage of high school graduates enter the armed services than high school dropouts, and the participation rate for black males who have completed high school is five times higher than for those who are high dropouts. Using a Knowledge of the World of Work Test, which is correlated with the Armed Forces Qualifying Test (AFQT), we find a marked increase in the participation rate for blacks as this test score increases. Those scoring 8 or 9 are more than three times as likely to participate in the military as those scoring 6. Finally, minorities who expect to complete some college are two to three times more likely to enter the military than are those who do not plan to go on the college.

Patterns of enlistment are markedly different among white young men. Participation rates in the military declined as parent's education increased, and the rates did not differ appreciably between high school graduates and high school dropouts and among all youth who had scores above 5 on the Knowledge of the World of Work Test. The participation rates for those expecting to attend some college were higher than for those not planning to go beyond high school, but not by as much as for minorities.

FIGURE 7

# Participation Rates





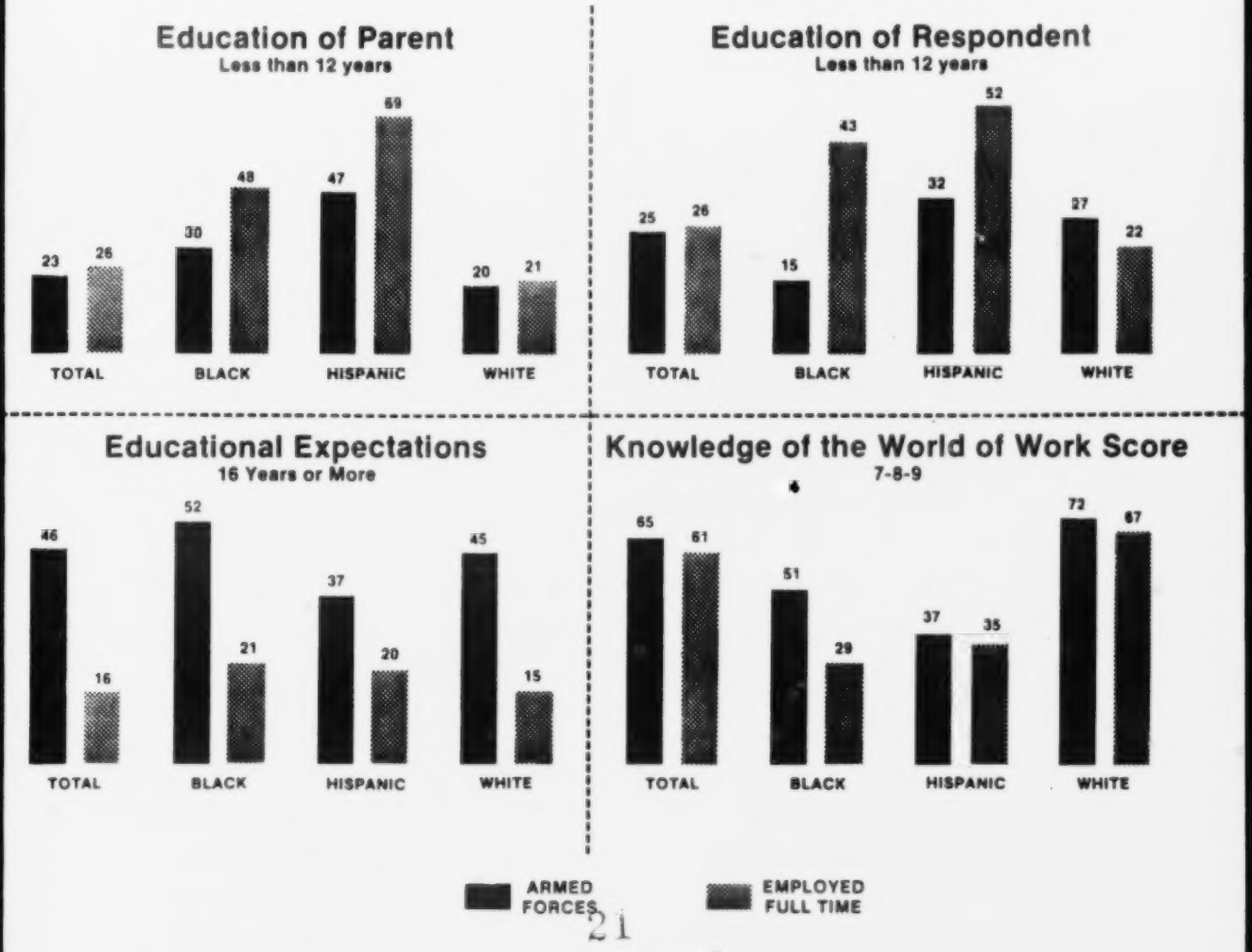

BEST COPY AVAILABLE

Armed forces personnel are comparable in quality with those civilians who have jobs which may be thought of as competing with the armed forces -- those youth who hold full-time civilian employment and who are not attending high school or college full-time (Figure 8). Among white males, the two groups are similar in the proportion who are married, the level of ability as measured by the score on the Knowledge of the World of Work Test, the degree of perceived control of their own lives, the proportion who completed high school, the distribution of their parents' occupations and education, and the proportion with health conditions that affect their work. Minority young men serving in the armed forces, however, appear to be generally more qualified than their civilian counterparts. More of the servicemen come from families where a parent had graduated from high school. The proportion of the young men serving in the armed forces who were high school graduates was higher than among the full-time employed, and the percentage of minority men who were below the mean score on the Knowledge of the World of Work Test was substantially lower for men in the armed forces. Many more of the servicemen in all racial groups expected to complete college than was true of the civilians employed full time. These data indicate that, in aggregate, the armed forces are drawing recruits of equal or superior quality relative to the pool of out-of-school youth employed full time.

When the military personnel are disaggregated by service we find that the Air Force and Navy attract individuals who have characteristics above those of full-time employed civilian youth, while the Army and Marines have characteristics slightly lower than the comparable civilian population. For instance, among males, those serving in the Navy have parents whose education is approximately one-half year higher than the full-time employed, they expect to complete about 1.25 years more education and their AFQT score was almost 4 points higher.

FIGURE 8

# Comparison of Servicemen and Civilians Employed Full Time



## ENLISTMENT INTENTIONS

Probably the group for whom enlistment intentions are most important are male high school seniors, for this is the time that young people make their first career choice. The NLS asked each of the respondents whether he would definitely or probably try to enlist in the armed services in the future or definitely or probably not enlist in the armed services. This is the same question routinely used in DOD and service studies. Overall, 21 percent of the male high school seniors in 1979 said that they would definitely or probably try to enlist; 36 percent of the blacks, 33 percent of the Hispanics and 18 percent of the whites so stated.

Multivariate analysis was used to determine the factors correlated with a positive intention to enlist (Figure 9). For white high school seniors, intending to enlist was positively associated with lower parental education, having been unemployed longer, residing in a state with high unemployment, desiring occupational training outside of regular school, and, among those under 18 years old, thinking that the most influential person in his life would approve of his joining the armed forces. For Hispanic youth, the only statistically significant factor was the belief among those under age 18 that the individual who has the most influence on him would approve of his joining the armed forces. Finally, among blacks, having been in the labor force and living in a single parent household at age 14 increased the probability that the youth intended to enlist.

FIGURE 9

# Factors Associated with Positive Enlistment Intentions (Male High School Seniors)

**BLACKS**

- Having been in labor force
- Lived in single parent home at age 14

**HISPANICS**

- Significant others approve (for those under age 18)

**WHITES**

- Lower parental education
- Longer unemployment
- High state unemployment rates
- Significant others approve (for those under age 18)
- Desire for occupational training

A second analysis included individuals who were 17 to 21 in 1980, who had attained 10 to 14 years of education, had never served in the armed forces and were not full-time college students. For this group 73 percent of males and 81 percent of females said that serving in the military is definitely or probably a good thing. However, only 22 percent of males and 11 percent of females indicated that they would definitely or probably try to enlist in the military in the future. The percentage with positive intentions to serve was particularly high among black males, 39 percent. Twenty-one percent of the males and 10 percent of the females had talked to recruiters and 10 percent of the males and 6 percent of the females took either the operational or high school ASVAB between the 1979 and 1980 interviews.

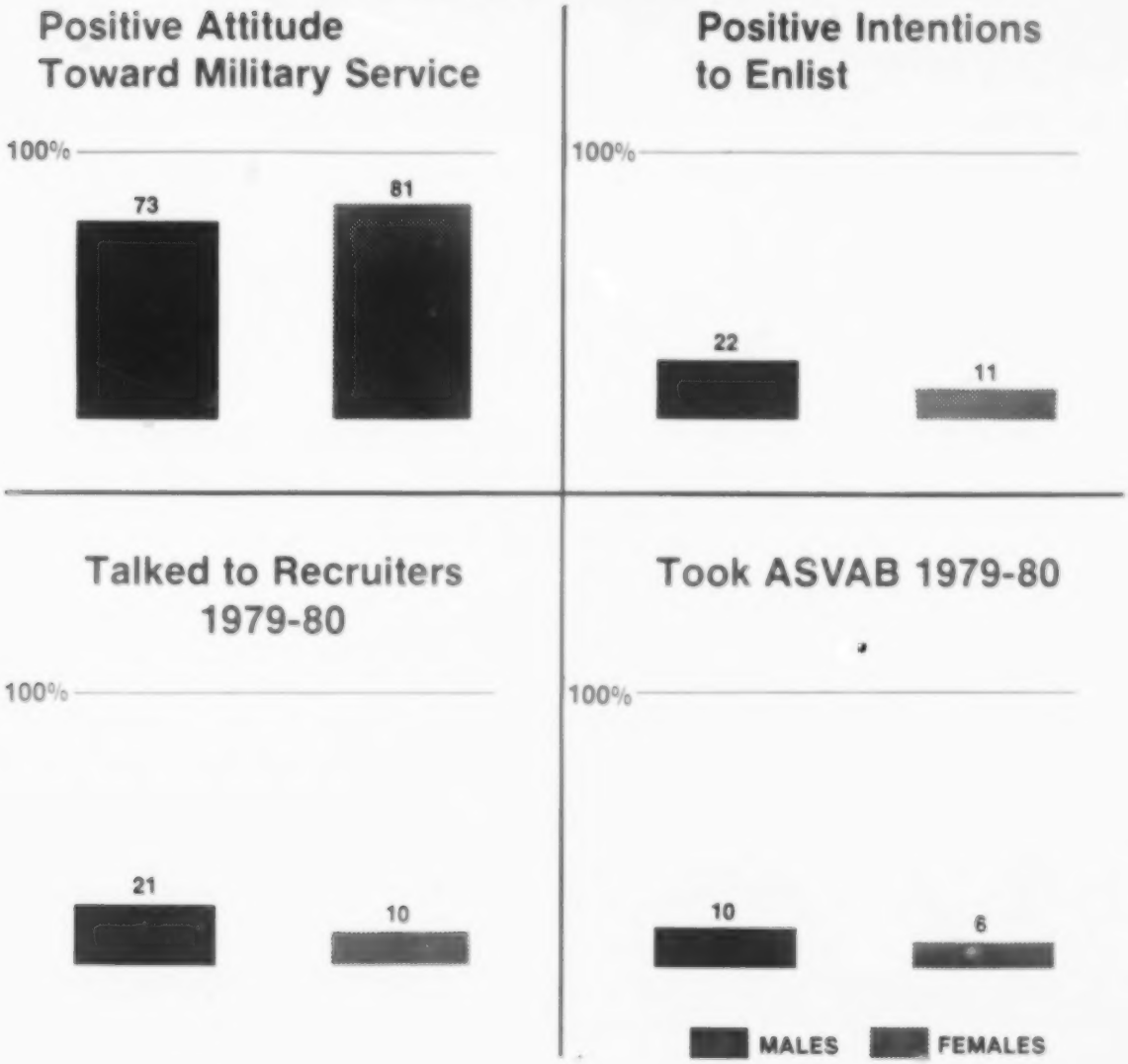
For young men, having a positive intention to serve decreased as age, education of the parent, education of the respondent, and AFQT scores increased (Figure 10). Also those who were not married, who lived in a single parent home at age 14, who were poor, or who were unemployed all had higher intentions to enlist. These findings indicate that youth from poorer socioeconomic backgrounds had higher intentions of enlisting. However, such patterns were less strong predictors of those who talked to recruiters and who took the ASVAB.

Although an inverse relationship is found between the quality of individuals and the proportion with positive intentions to enlist, the screening process used in military recruiting apparently eliminates the less-educated and those who score lower on the AFQT. Over a quarter of high school dropouts who took the ASVAB cite "failure of ASVAB" as the main reason for not enlisting. Undoubtedly it is the screening process which eliminates the poorer prospects, so that, as we reported earlier, the armed service personnel are of superior or equal quality to out of school civilians employed full time.

When asked for the main reason why they did not enlist, a very small percentage of youth age 17-23 who talked to recruiters, took the ASVAB, or met the aptitude and physical requirements attribute their not enlisting to "insufficient pay or benefits" or "got better civilian jobs." Likewise "length of obligation" was cited as the main reason for not enlisting by only 4 percent of those who talked to recruiters and/or who took the ASVAB, conpared to about 20 percent of those who qualified but did not enlist.

FIGURE 10

# Interest in Military Service of Selected Youth: 1980

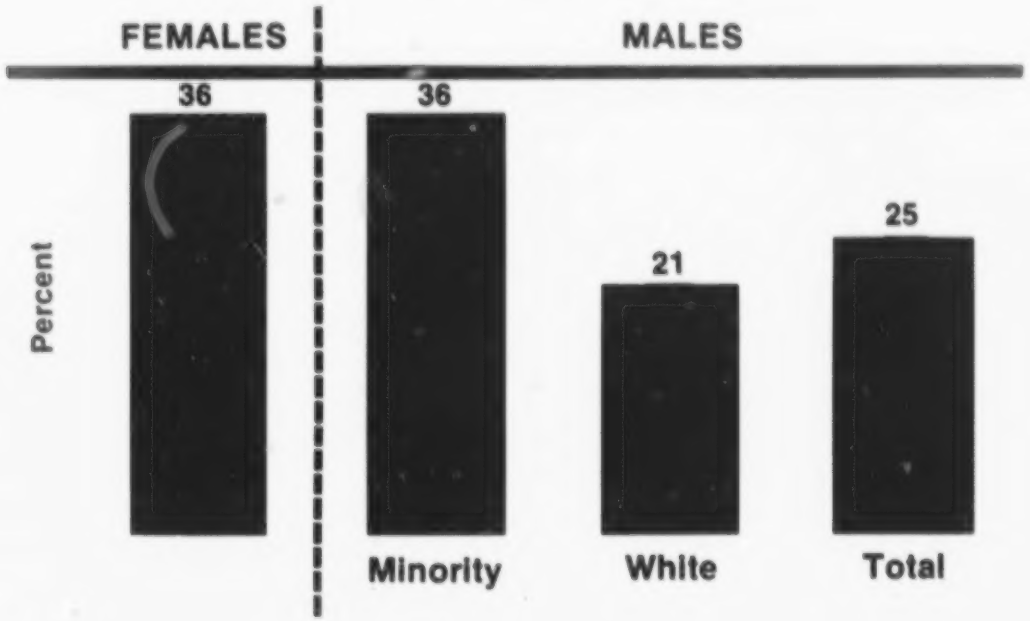


REENLISTMENT INTENTIONS

First term service personnel were asked their intentions to reenlist in 1979 (Figure 11). A higher proportion of females (36 percent) expressed intentions to reenlist than males (25 percent). Among males, the proportion with positive intentions was higher for minorities (36 percent) than for whites (21 percent). These differences in reenlistment intentions probably reflect the alternative employment opportunities in the civilian labor market. Therefore, estimates were made of the wages per hour that service personnel would earn in the civilian sector, based on the experience of out-of-school youth age 18 to 22 who were not in the military. These estimates were compared with the military pay, as reported by the NLS military sample. The differential was about $1.00 for females and minority males, but close to $1.50 for white males.

FIGURE 11

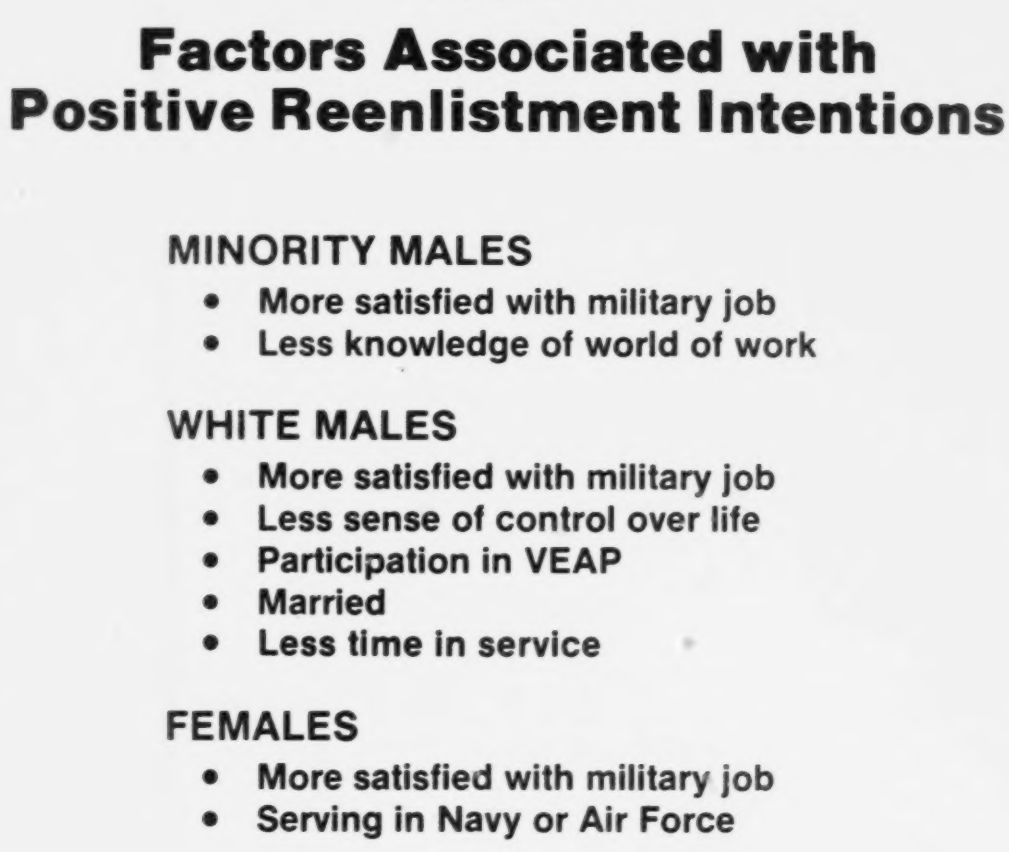
**Proportion with Positive Intentions to Reenlist Among First-Term Enlistees in 1979**



A multivariate analysis was used to estimate the probability of intending to reenlist (Figure 12). As might be expected, satisfaction with the military job turned out to be a strong indicator of positive reenlistment intentions, other factors held constant. This finding suggests that service in the military is regarded by many as a career that competes with civilian employment, and it contrasts with the hypothesis that the primary motivation for enlistment in the armed services is to acquire skills for future civilian employment and/or to take advantage of post-service educational benefits.

Being married had a positive impact on reenlistment intentions for males and a negative impact for women. There was a strong positive influence of participation in VEAP on intentions to remain in the service for males, particularly for white males. Further, minority males who are less knowledgeable about the labor market and white males who think that they do not have control over their future are more likely to intend to reenlist than other service personnel. Finally, those young men who had been in the service longer appeared less inclined to reenlist, a finding that did not hold true for servicewomen.

FIGURE 12


Factors Associated with Positive Reenlistment Intentions
MINORITY MALES
• More satisfied with military job
• Less knowledge of world of work
WHITE MALES
• More satisfied with military job
• Less sense of control over life
• Participation in VEAP
• Married
• Less time in service
FEMALES
• More satisfied with military job
• Serving in Navy or Air Force

We were not successful in determining any significant relationships between pay levels in the military and civilian sectors and positive reenlistment intentions. Although this lack of relationship might indicate that the reenlistment behavior of first term service personnel is not responsive to pay changes, we hesitate to draw specific conclusions because the complexities in computing the expected earnings from military and civilian jobs are substantial. Likewise, there were not significant differences in reenlistment intentions across military occupational specialities -- among white collar, blue collar, and other occupations -- for either sex. Reenlistment intentions also did not vary by branch of service among males, but among females those serving in the Navy or Air Force had higher reenlistment intentions.

Post-Service Labor Market Experience of Veterans and Attriters

Using 1980 data, we compared veterans completing their first term of duty, attriters who had left before their term of duty had ended, and those who never served. Because the sample was young, age 18-23, and their enlistments were relatively recent, we found differences between these groups (Table 2). Attriters of both sexes were more likely than members of the other groups to come from lower socioeconomic status backgrounds, as measured by parental education and size of families. Mean educational expectations were higher among veterans than among members of the other two groups. Sex differences appeared in the AFQT score: the mean score among males was highest for veterans and lowest for attriters, but among females the attriters had the highest scores and those who had never served had the lowest.

Using ordinary least squares regression analysis, we regressed hourly earnings for non-enrolled and employed male and female youth between 18 and 23 years of age on service status and control variables including the number of months between the date of discharge and the 1980 interview date (Figure 13). Male veterans earned less on an hourly basis immediately after their separation than young men who had never served, but this disadvantage disappeared as the period between separation and measurement increased. Those with less than one month of post-military exposure earned about 20 percent less per hour than comparably defined male youth who had never served. However, ten months after leaving the service, the wages of the two groups were the same, and after approximately fifteen months there was a 4 percent earnings gap in favor of the veterans, a gap which disappeared six months later. Those young men who left the service before completing their term of duty suffered a 6 to 8 percent disadvantage compared to the never-served group and did not catch up as time passed, although this difference was not statistically significant.

A very different pattern was found among females. The average female veteran who returned to work earned about the same pay as her counterpart who had never served and the difference between the two groups did not change significantly over time. As time passed, however, the earnings of attriters, which started off slightly higher than those who never served, declined. By 18 months following leaving the service, the mean hourly earnings of attriters was about 25 percent less than the wages of the reference group, although after that point the earnings of the attriters improved so that three years after service there appeared to be parity in earnings.

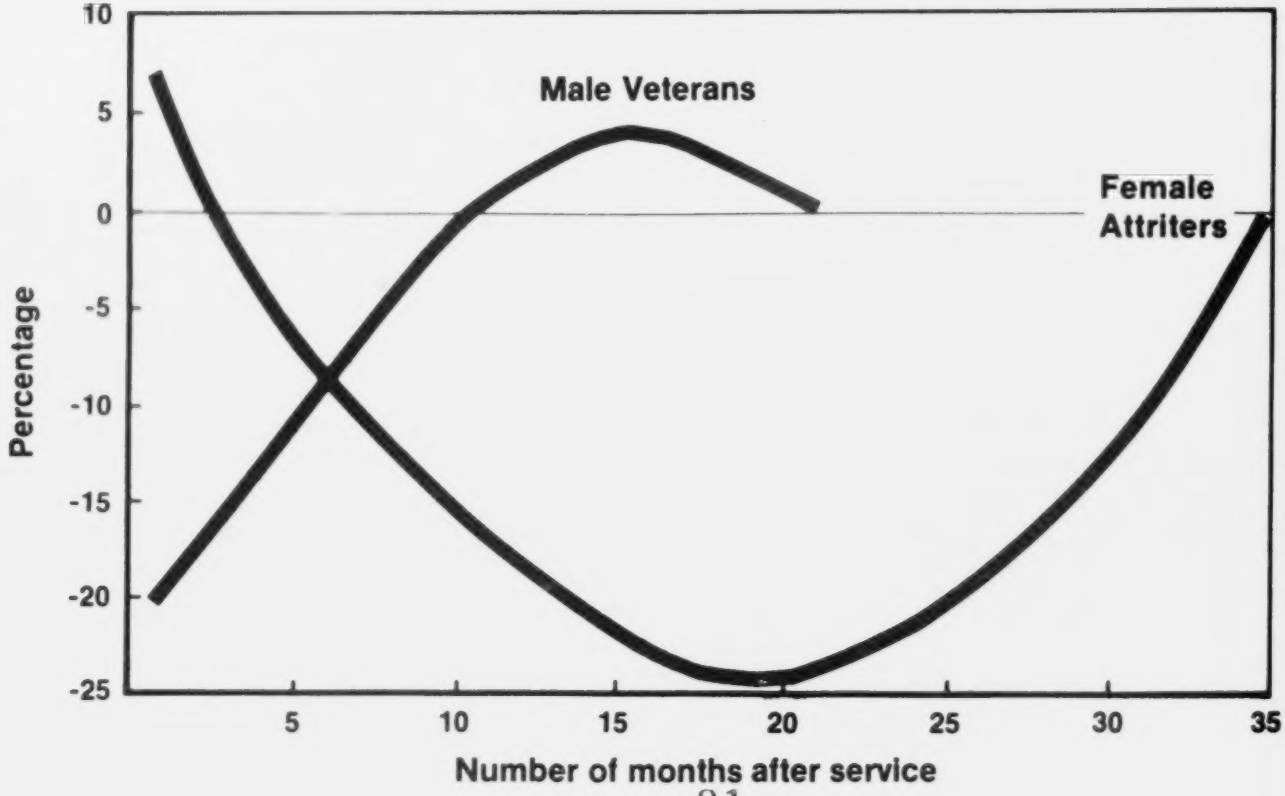
TABLE 2

# Mean Characteristics Among Veterans, Attriters, and Civilians Who Never Served, by Sex: 1980

| Characteristics | MALE | | | FEMALE | | |
|---|---|---|---|---|---|---|
| | Veterans | Attriters | Never Served | Veterans | Attriters | Never Served |
| Age | 21.88 | 21.25 | 20.08 | 22.09 | 21.09 | 20.13 |
| Education of parents | 12.22 | 11.83 | 12.66 | 12.56 | 12.04 | 12.49 |
| Education of respondent | 11.59 | 11.52 | 12.04 | 12.23 | 12.01 | 12.14 |
| Educational expectations | 14.70 | 13.58 | 14.03 | 15.11 | 14.58 | 13.93 |
| AFQT | 77.43 | 68.81 | 73.42 | 83.83 | 86.35 | 72.74 |

FIGURE 13

# Percentage Difference in Hourly Rate of Pay Between Service Personnel and Those Who Never Served



POLICY IMPLICATIONS

Several findings suggest possible policy implications (Figure 14). Some of these are conjectures which will require further exploration while others appear to be clear cut.

FIGURE 14

## Findings with Policy Implications

- **The All-Volunteer Force has been successful in attracting quality young people into the armed services.**
- **The intentions to enlist in the services is substantially lower for whites than for minorities.**
- **For white young men, the desire for additional occupational training was a major motivation for intending to enlist in the armed services.**
- **Pay was not a strong incentive or disincentive for enlistment decisions in 1979.**
- **Males in the military were much more likely to be married, and being married increased the reenlistment intentions.**
- **Individuals with higher educational expectations are more likely to enlist in the armed services. This evidence, although not conclusive, indicates that recruiting programs which include in-service and post-service educational benefits will be attractive to some segments of youth.**

1. The All-Volunteer Force has been successful in attracting quality young people into the armed services. Recruits are of as high quality or higher quality than the pool of out-of-school youth employed full-time, although they are not comparable in a number of areas to those who go on to college. Interservice comparisons, however, indicate disparities among the four services. It is not clear whether these differences are due to the technical requirements of the services or whether they reflect self-selection by the recruits based on such factors as availability of specific training opportunities or quality of life in the services. Depending on which of these causes is operating, one would argue that uniform changes in conditions or service-specific changes would be more effective instruments for improving the quality of service personnel.

2. The intention to enlist in the services is substantially lower among whites than among minorities. Because minorities will make up an increasing proportion of the youth population in the next decade, this finding suggests that they may make up a larger share of the armed services.

3. For white young men, age 18 to 21 or high school seniors, the desire for additional occupational training was a major motivation for intending to enlist in the armed services. The desire for occupational training was also important for black young men 14-17 who were not high school seniors. This finding suggests that many youth view military occupations as a way of obtaining skills which might be transferable to their future civilian jobs. Consequently, more active promotion of the specific occupational training opportunities available in the armed services and the optimal allocation of enlistees to their desired assignments might aid recruitment.

4. We did not find that pay was a strong incentive or disincentive for enlistment decisions in 1979 which was an unusually poor year for recruiting. Only for white 18 to 21 year olds who were not high school seniors was pay an important factor in enlistment intentions, and even for this group a 10 percent increase in military pay would have increased enlistment intentions by approximately one percentage point, or to about 5 percent. The relatively low impact of pay on enlistment intentions was shown further by the small numbers of persons deciding not to enter the military due to insufficient pay or to take a better civilian job, among those who had talked to recruiters, taken the ASVAB, or met the aptitude and physical requirements for service between the 1979 and 1980 interviews. Military pay relative to civilian pay also did not seem to significantly influence the intentions of first term service personnel to reenlist in 1979.

5. Males in the military were much more likely to be married than were civilians employed full-time. Although this is a factor likely to raise the military payroll, because these individuals are more likely to receive dependent's allowances, it is also true that being married was associated with increased reenlistment intentions for males.

6. Cross tabular analyses indicate that those individuals with higher educational expectations are more likely to enlist in the armed services. Other analyses indicate that among high school graduates who do not go to college directly from high school, those with high educational aspirations prefer military services to civilian alternatives. We also found for white males, age 18 to 21 who were out of school, intentions to enlist increased as the difference between the education they aspired to and the education they expected increased. This evidence, although not conclusive, indicates that recruiting programs which include in-service and post-service educational benefits will be attractive to some segments of youth.

APPENDIX

# THE NATIONAL LONGITUDINAL SURVEY (NLS) OF YOUTH

## A RESOURCE FOR MANPOWER ANALYSIS

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DEFENSE MANPOWER DATA CENTER

The Defense Manpower Data Center has been involved with the National Longitudinal Survey of Youth (NLS) since the initial sample design and the formation of the DoD consortium that sponsors the military component of the survey. DMDC has served as a focal point for the military manpower interests in the NLS, and is developing the NLS as a resource for manpower analysis.

The NLS has unique features that make it, in itself, a valuable source of data for research on military manpower, and it has features that enable it to mesh with and complement other sources of information. These remarks will introduce the NLS, and the questions which the survey is especially well suited to answer. We will then describe some of the survey's recent applications.

## THE NLS-YOUTH DATA

There are three qualities which together make the NLS sample an exceptionally rich source of data. The first is the sample's breadth of coverage, its inclusion of a full national cross-section of youth, with supplementary oversamples of low-income and minority youth, and those enlisted in military service. The second major qualitative dimension of the sample is its depth, its great array of detailed information on its respondents. And finally, the detailed information on the broad sample is maintained longitudinally; data from three annual surveys of the sample have been released, with at least two more waves to come.

An especially interesting and useful feature of the Youth Sample's broad coverage is its inclusion of both military personnel and civilians. This allows a range of important comparisons to be made, such as comparisons between actual and potential recruits, or between enlistees, those who are interested in enlisting, and those who have no interest in military service. It also allows us to examine the effects of military service on the lives of those who enlist and compare them to the experiences of the civilian population.

The NLS is a stratified national cross section of youth; its members are now about 17 to 24 years old, representing a prime age group for new enlistments. It includes people from all economic backgrounds, and all levels of educational attainment. This distinguishes it from survey data like the Department of Education's Class of 72 (also known as NLS72) and High School and Beyond surveys, whose respondents were high school students, and from DoD surveys of military personnel. With a more nationally representative sample we can study military and civilian personnel of different backgrounds and reach a better understanding of the sources of quality recruits.

For the members of the sample, the NLS file presents a large volume of in-depth information. We have family and educational background, measures of various attitudes and aptitudes (provided by the administration of the standard Armed Services Vocational Aptitude Battery (ASVAB) to the members of the sample), labor market experience, training (both in and out of the military), and plans for the future. The data are longitudinal: by following the same people for several years in annual re-interviews, we can see how conditions and attitudes affect later decisions, and how these decisions in turn affect subsequent decisions and careers.

THE NLS COMPLEMENTS OTHER DATA

The NLS file does not exist in isolation. There are other sources of data that are useful, and are better suited than the NLS to certain applications. DoD surveys of military personnel, for example, have larger military samples, though with less extensive data on their respondents than the NLS. These surveys can be more appropriate than the NLS for studies of issues for which very large numbers of military responses are needed. The NLS has been designed for comparability with these surveys.

The High School Class of '72, also known as NLS72, is sponsored by the Department of Education. Since it consists only of twelfth grade high school students in 1972, it is not representative of the entire youth population. Also, respondents who entered the Service were not followed for re-interviews. At DMDC, we are now trying to link these data with our Service records to provide information on the military experience of the sample members. Since these people are now in their late twenties, those with military experience should be able to tell us something about the post-Service activities of early AVF people.

The Department of Education's High School and Beyond (HSB) Survey consists of high school seniors and sophomores as of 1980. Like the NLS72 and the DoD surveys, its data are collected by a self-administered questionnaire rather than personal interviews. This limits the volume of information which can be collected from each respondent. While the HSB survey did not draw a specific sample from the military, it does and will follow those of its members who enlist, and it does include a brief set of questions on military attitudes and experience. These questions are designed for comparability with

the NLS and the DoD personnel surveys, so that over the next few years (as its members age) this panel will be a valuable source of data to update and augment what we can learn from the older data.

The Youth Attitude Tracking Study (YATS) is an annual telephone survey, questioning young men and women primarily about their attitudes toward military service and their likelihood of enlisting. YATS was conducted from 1975 to 1982 by Market Facts, Inc., under a contract with DoD through the Joint Market Research Program (JMRP). Since 1983 it has been conducted by Research Triangle Institute. Results are reported to DoD and the Services; public reports are available through DMDC.

## POTENTIAL ANALYSIS WITH NLS-YOUTH DATA

We have found that the NLS-Youth survey is well suited to the analysis of enlistment, both for forecasting and for policy studies. Since the data include a great deal of information on military personnel, the survey can also be used to study issues related to performance and retention in the service. It is also applicable to the analysis of the post-service experience-- at school, on the job, and in the home--of those who leave the service. It is the combination of the breadth of sampling and the depth of detail in this longitudinal data base that makes it potentially so useful.

### Enlistment

The NLS has been used to analyze the enlistment process. Using its information on schooling, employment, earnings, and educational aspirations and expectations, models have been developed to show the attractiveness and effectiveness of educational benefit incentive programs, the impact of general economic conditions on enlistment behavior, and the propensities of poeple with different backgrounds to enlist and to succeed in the military service.

In order to test these models in a complete way, it is necessary to have information on those who enlist (and remain) in the service, on those who might have enlisted but chose not to, and on those who might choose to enlist in the future. The NLS provides this information; not only can we compare the initial civilian and military samples, but we can also observe some sample members in transition, either enlisting or leaving the Service.

### Military Performance and Retention

In order to assess the experience of people in the military, to estimate the determinants of promotion or attrition and of retention or separation, we likewise need data for people on both sides of the experience (including background detail) to help explain the observed outcomes. Again, the large and diverse sample and extensive detail of the NLS enable it to satisfy these criteria. It will do so more completely as more people pass through the generally temporary military stages of their careers.

### Post-Military Experience

As individuals move in and out of military careers, we will also be better able to use the detailed data anticipated from the NLS to study the effects that military service has on later life. We will learn more of the success of veterans in completing their education, competing in the civilian job market, and maintaining their families.

## CURRENT ANALYSIS OF NLS-YOUTH DATA

Work with the NLS data is proceeding now at a number of places. We can only make a partial list of them here. The list naturally begins with

the work of the Ohio State University Center for Human Resource Research, which has been discussed thoroughly by Borus and Kim.

Fredland and Little at Annapolis and Daula and Fagan at West Point have been using the dual NLS sample of military and civilian personnel to study the determinants of the enlistment decision. Fredland and Little have examined the characteristics which distinguish those who enlist from those who do not. They explore differences in attitudes, educational aspirations, job satisfaction, the pay-off to vocational training, and other factors. Daula and Fagan have been experimenting with a model of enlistment, using the NLS data to test state-of-the art econometric techniques.

Hosek (Rand Corporation) has also been working on an enlistment model, using the detailed data on NLS civilians combined with the DoD Survey of Personnel Entering Military Service, administered at the Armed Forces Entrance Examination Stations (AFEES). Again, this study benefits from the designed compatibility of the NLS with other sources of data on military personnel.

Orr (Army Research Institute) and Kim (The Ohio State University) are conducting a study of the sources of training for skilled civilian and military workers. This study makes use of the detailed occupational training, earnings, and educational data provided for both military and civilian young people in the NLS.

Finally, a group of researchers at the National Opinion Research Center in Chicago (Bidwell, Mare, Topel, and Winship) is beginning some

work on various connections between education and military service, including the effects of education on enlistment and military performance. They are exploiting the NLS's detail on educational and military matters, the ASVAB aptitude measures, and the repeated interviews in the longitudinal files.

Other researchers are using the NLS Youth data in military manpower applications. The survey has proven itself to be an extremely valuable research tool, and will become more valuable as further waves of interviews add more data to enhance the utility of the data we already have.